March 26, 2008

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *In the Matter of Broadband Industry Practices*, WC Docket No. 07-52

Dear Ms. Dortch:

Pursuant to Section 1.1206 of the Commission's rules, I, George Ou, hereby give notice that on March 25, 2008, I met with Commissioner Robert M. McDowell with regard to the above-referenced matter. This meeting was conducted via a Skype call with video whiteboard presentation. The parties discussed the attached materials.

The purpose of the meeting was to explain the importance of network operators being allowed to engage in reasonable network management practices to ensure that upstream bandwidth is always available for *all* broadband subscribers to use. It is critical that network operators preserve upstream bandwidth so that all broadband customers are able to use minimal amounts of upstream bandwidth for human-to-human applications such as VoIP and interactive learning (*e.g.*, video whiteboard) or human-to-machine applications.

I explained that a small minority of machine-to-machine (peer-to-peer) users are able to seize nearly all of the upstream capacity as well as most downstream capacity in a shared network because peer-to-peer leveraged the multi-stream advantage to gain an order of magnitude advantage over traditional single-stream applications. I also pointed out data from the Government of Japan that just 10% of Internet users are able to monopolize 60-90 percent of all Internet traffic at the expense of other users. If the network isn't managed to distribute network resources fairly, then all broadband consumers would suffer for the benefit of a few content providers that have decided to transfer their distribution costs to the network operator, and its customers, rather than to pay their own costs of distributing content.
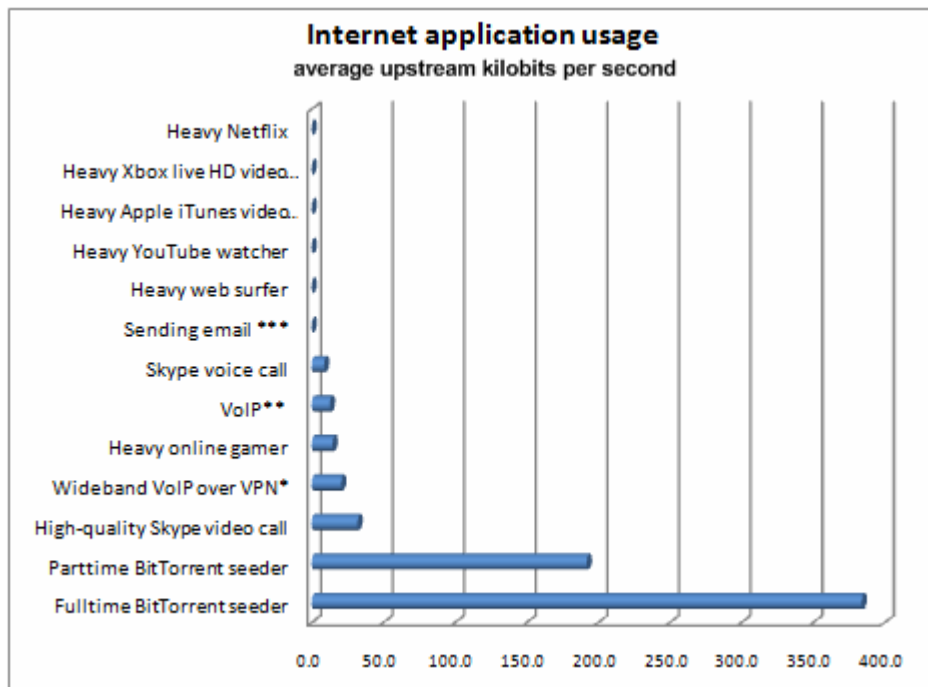
Respectfully submitted,
George Ou
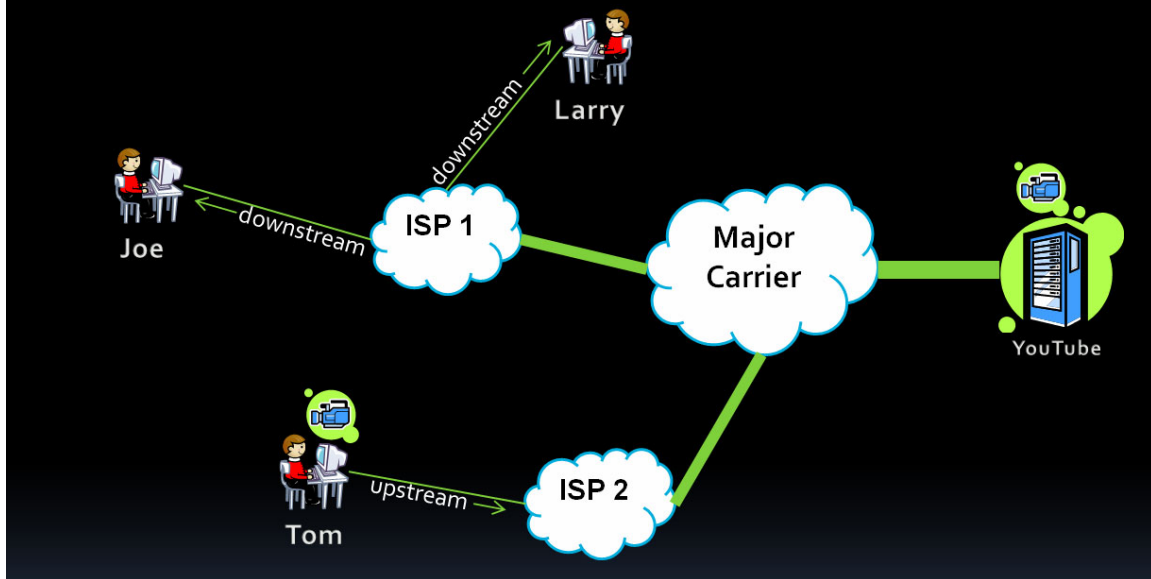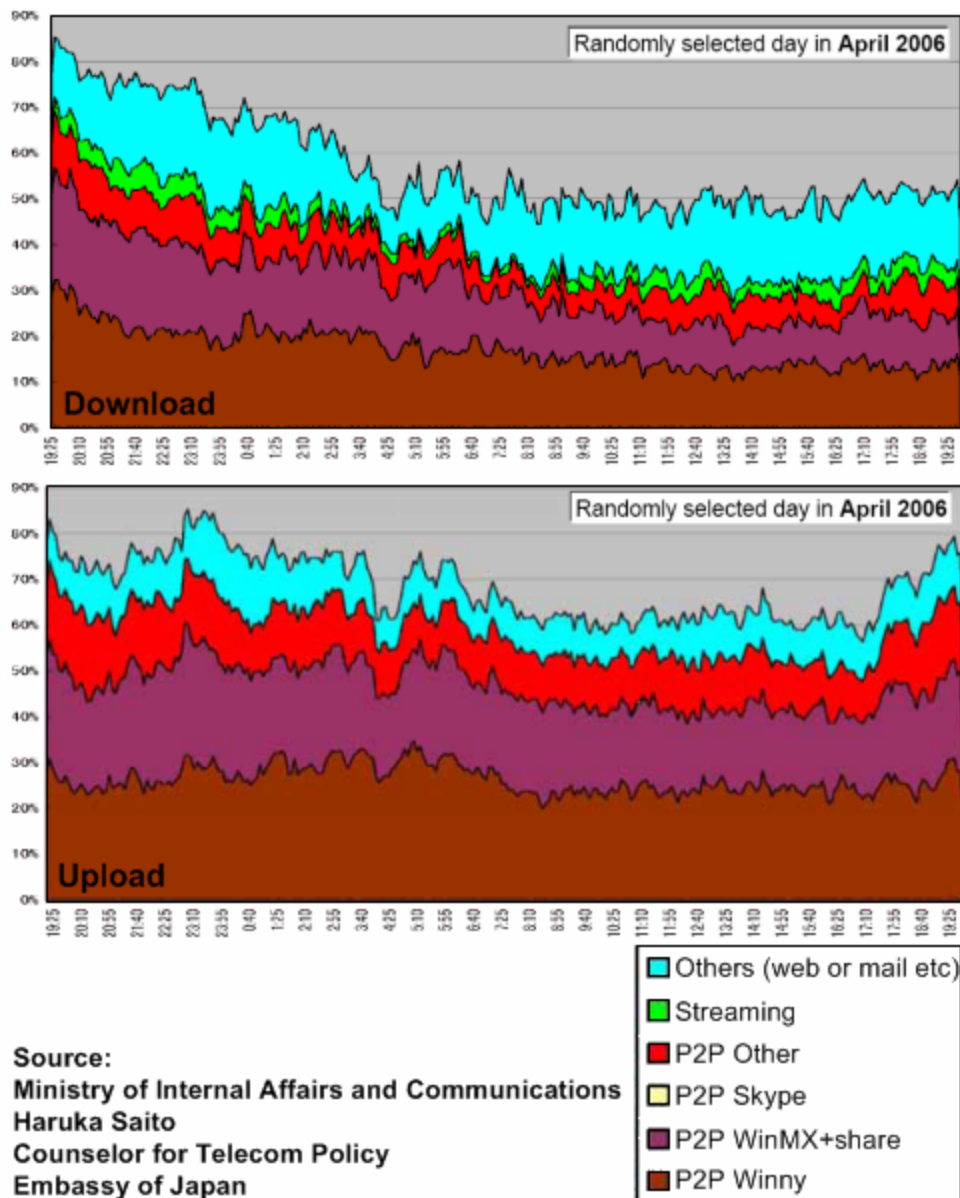
P2P (Peer to Peer) applications
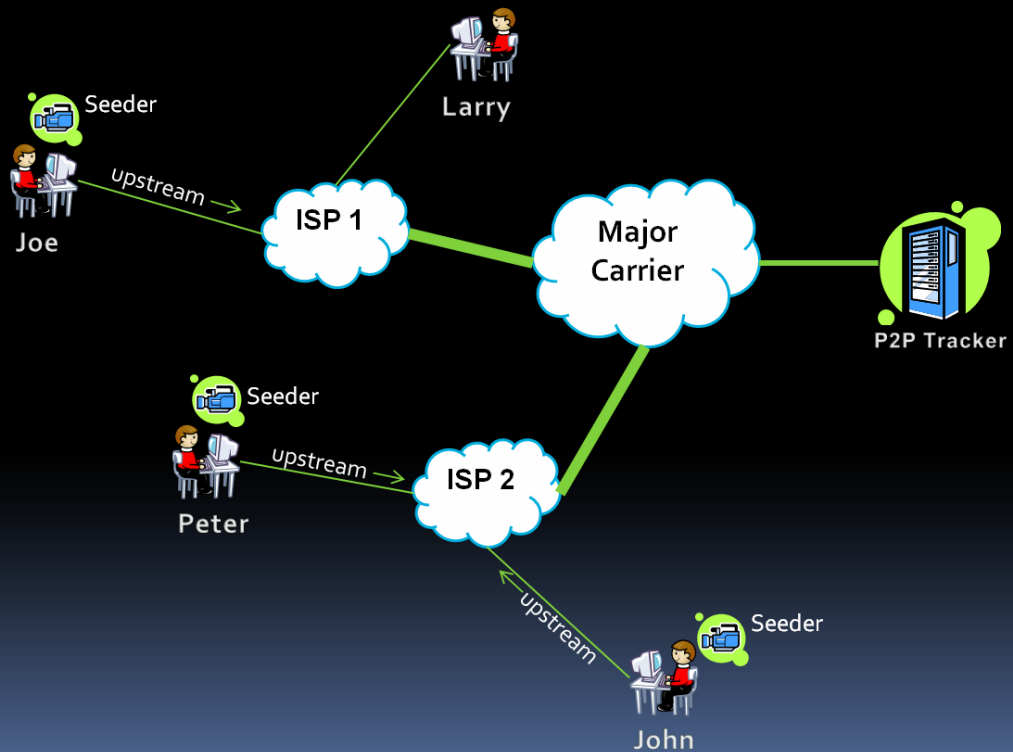
	Hours used per day	In-use upstream kbps	Average upstream kbps	Kilobytes sent per day	Sessions in use
Fulltime BitTorrent seeder	24	384	384.0	4,147,200	~20
Parttime BitTorrent seeder	12	384	192.0	2,073,600	~20
High-quality Skype video call	2	384	32.0	345,600	1
Wideband VoIP over VPN*	5	98.8	20.6	222,300	1
Heavy online gamer	10	35	14.6	157,500	1
VoIP**	6	50.8	12.7	137,160	1
Skype voice call	6	34.8	8.7	93,960	1
Sending email ***	0.0031	384	0.05	535	1
Heavy web surfer	12	0.1	0.05	<500	1
Heavy YouTube watcher	12	0.1	0.05	<500	1
Heavy Apple iTunes video user	12	0.1	0.05	<500	1
Heavy Xbox live HD video user	12	0.1	0.05	<500	1
Heavy Netflix	12	0.1	0.05	<500	1

Internet application usage
average upstream kilobits per second

Referenced:
FCC hearings: Comcast versus Vuze
http://blogs.zdnet.com/Ou/?p=1031

Randomly selected day in **April 2006**

Download

Randomly selected day in **April 2006**

Upload

Legend:
- Others (web or mail etc)
- Streaming
- P2P Other
- P2P Skype
- P2P WinMX+share
- P2P Winny

Source:
Ministry of Internal Affairs and Communications
Haruka Saito
Counselor for Telecom Policy
Embassy of Japan

Referenced:
Japan's ISPs agree to ban P2P pirates
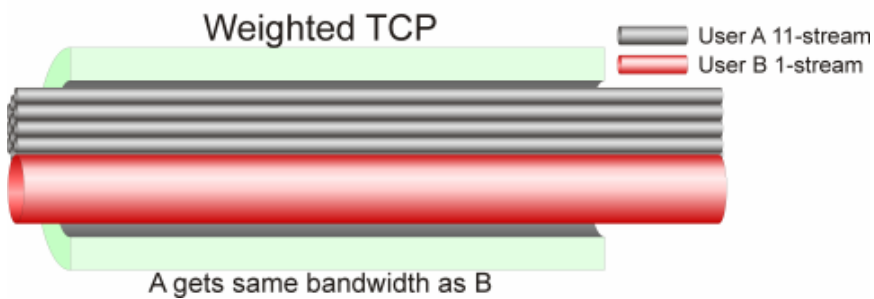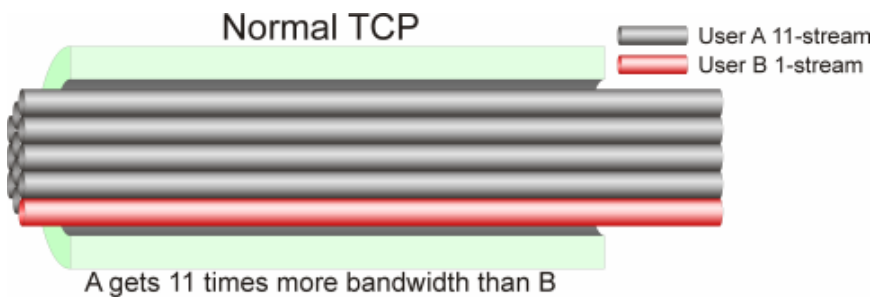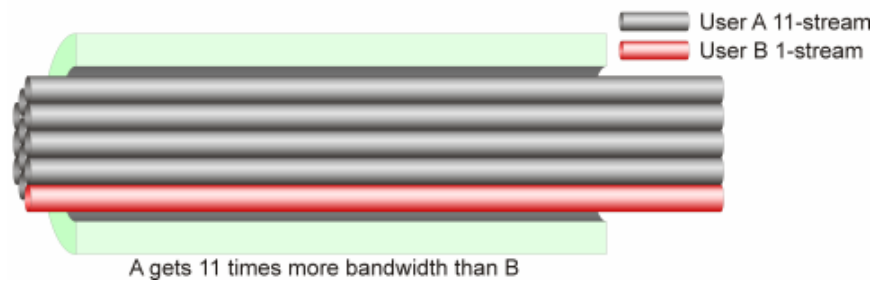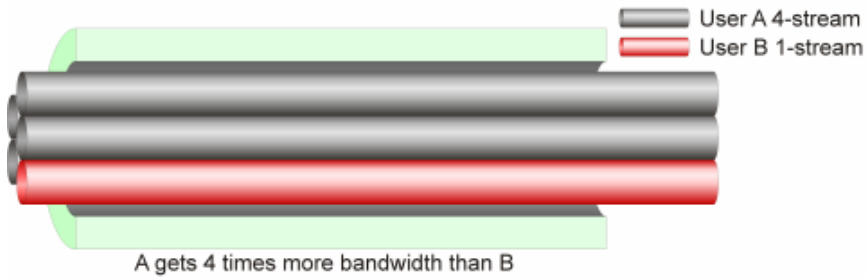http://blogs.zdnet.com/Ou/?p=1063

	Upstream	Downstream	# of BitTorrent 24×7 seeders to kill network
Cable DOCSIS 1.1	10 Mbps	40 Mbps	Less than 26 [1]
Cable DOCSIS 3.0	120 Mbps	160 Mbps	Less than 60 [2]
Wireless 802.11g ISP	16 to 20 Mbps shared between up and down under good conditions		Less than 10 [3]

1. Fewer than 26 fulltime BitTorrent seeders saturating their upstream at 384 kbps 24×7 kills a DOCSIS 1.1 network

2. Fewer than 60 fulltime BitTorrent seeders saturating their upstream at 2 Mbps 24×7 kills a DOCSIS 3.0 network

3. Fewer than 10 fulltime BitTorrent seeders OR uploaders/downloaders can kill a Wireless 802.11g ISP. This is because a Wireless LAN is not only shared, but it's shared between upload and download.

Referenced:
FCC hearings: Comcast versus Vuze
http://blogs.zdnet.com/Ou/?p=1031

A gets same bandwidth as B

A gets 4 times more bandwidth than B

A gets 11 times more bandwidth than B

Normal TCP

A gets 11 times more bandwidth than B

Weighted TCP

A gets same bandwidth as B
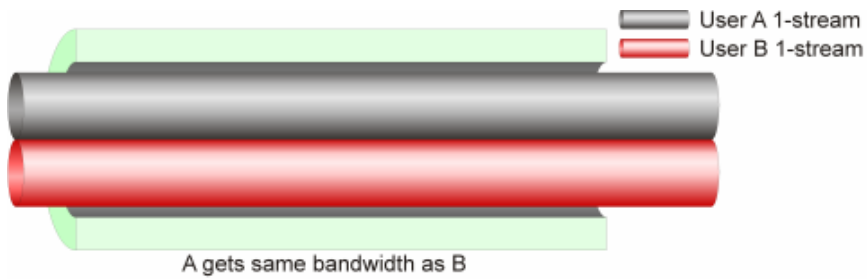
Referenced:
Fixing the unfairness of TCP congestion control
http://blogs.zdnet.com/Ou/?p=1078

Exetel

ADSL

| Wireless | ADSL2 | ADSL2 + Phone | 'NAKED' ADSL2 |

Plan speed Up to 24576 / 1024 kbps	Pre-paid data	Off-peak bonus	Excess data	Upload data	IP	Monthly cost	Calc TCO
AnyPhone A*	8 GB	48 GB	$3 /GB	Free	Static	$40 /mo	
AnyPhone B*	12 GB	48 GB	$3 /GB	Free	Static	$50 /mo	
AnyPhone C*	24 GB	48 GB	$3 /GB	Free	Static	$60 /mo	
AnyPhone D*	36 GB	48 GB	$3 /GB	Free	Static	$75 /mo	
AnyPhone E*	48 GB	48 GB	$3 /GB	Free	Static	$95 /mo	

Referenced:
Why metered Internet is a really bad idea
http://blogs.zdnet.com/Ou/?p=919